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**INDEX TO UREDINEOUS CULTURE EXPERIMENTS
WITH LIST OF SPECIES AND HOSTS FOR
NORTH AMERICA. I.**

W. A. KELLERMAN.

(Continued from p. 257, Vol. 9.)

Since the first part of this INDEX was published there has appeared (on the preceding pages of this No. of the Journal), an important article embodying the culture work of J. C. Arthur in 1903. The following additions thereto, including some corrections, are to be referred to their proper alphabetical place in that portion of the Index.

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AECIDIUM on *Helianthus grosse-serratus* Mont. on *H. maximiliani* Schrad., *see* *Puccinia helianthi* Schw. from *Helianthus grosse-serratus* Mart. [Arthur.]

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AECIDIUM hydnoides B. & C., from *Dirca palustris* L. (uredo and teleuto [*Puccinia hydnoides* (B. & C.) Arth. n. n.] on *Bromus ciliatus* L.). J. C. Arthur. *Jour. Mycol.* 10:19. Jan. 1904.

AECIDIUM [Caeoma] on *Larix decidua* Mill., *see* *Melampsora medusae* Thüm. teleutospores from *Larix decidua*. [Arthur]

AECIDIUM leucospermum B. & C. on *Lespedeza capitata* Mx., *see* *Uromyces lespedezae-procumbentis* (Schw.) Curt. teleutospores from *Lespedeza capitata*. [Arthur]

AECIDIUM pustulatum Curt. on *Comandra umbellata* (L.) Nutt., *see* *Puccinia pustulata* (Curt.) Arth. teleutospores from *Andropogon furcatus* Muhl. and *A. scoparius* Mx. [Arthur]

AECIDIUM ranunculi Schw. from *ranunculus abortivus* L. (uredo and teleuto [*Puccinia eatoniae* Arth. n. n.] on *Eatonia pennsylvanica* (DC.) A. Gray). J. C. Arthur. *Jour. Mycol.* 10:18. Jan. 1904.

AECIDIUM on *Ribes cynosbati* (spermogonia and aecidia), *see* *Puccinia albiperidia* Arth. teleutospores from *Carex gracilis* Schw. [Arthur]

AECIDIUM on *Salvia lanceolata*, *see* *Puccinia caulincola* Tr. & Gall. teleutospores from *Salvia lanceolata*. [Arthur]

- AECIDIUM on *Solidago canadensis* L., *S. serotina* Ait., *S. flexicaulis* L., *S. caesia* L., *see Uromyces caricis-solidaginis* Arth. teleutospores from *Carex varia* Muhl. [Arthur]
- ANDROPOGON furcatus Muhl. and *A. scoparius* Mx. (spermogonia and aecidia [Aecidium pustulatum Curt.] on *Comandra umbellata* (L.) Nutt., *see Puccinia pustulata* (Curt.) Arth. from *Andropogon furcatus* Muhl. and *A. scoparius* Mx. [Arthur]
- ANDROPOGON scoparius Mx. and *A. furcatus* Muhl., *see Andropogon furcatus* Muhl. and . . . [Arthur]
- ANDROPOGON scoparius Mx. (spermogonia and aecidia on *Pentstemon hirsutus*), *see Puccinia andropogonis* Schw. teleutospores from *Andropogon scoparius* Mx. [Arthur]
- BROMUS ciliatus L. (*Puccinia hydnoidea* (B. & C.) Arth), *see Aecidium hydnoideum* B. & C. from *Dirca palustris* L. [Arthur]
- CAEOMA on *Larix decidua* Mill., *see Aecidium on Larix decidua* Mill. [Arthur]
- CALAMOVILFA longifolia (Hook.) Hack. (spermogonia and aecidia on *Smilax hispida*), *see Puccinia amphigena* Diet. teleutospores from *Calamovilfa longifolia* (Hook.) Hack. [Arthur]
- CAREX gracillima Schw. (spermogonia and aecidia on *Ribes cynosbati*), *see Puccinia albiperidia* Arth. teleutospores from *Carex gracillima* Schw. [Arthur]
- COMANDRA umbellata (L.) Nutt. (Aecidium pustulatum Curt.), *see Puccinia pustulata* (Curt.) Arth. teleutospores from *Andropogon furcatus* Muhl. and *A. scoparius* Mx. [Arthur]
- CAREX varia Muhl. (spermogonia and aecidia on *Solidago canadensis* L., *S. serotina* Ait., *S. flexicaulis* L., *S. caesia* L.) *see Uromyces caricis-solidaginis* Arth. teleutospores from *Carex varia* Muhl. [Arthur]
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- DISTICHLIS spicata (L.) Greene (Aecidium ellisi Tr. & Gall. on *Chenopodium album* L.), *see Puccinia subnitens* Diet. from *Distichlis spicata* (L.) Greene. [Kellerman]
- EATONIA pennsylvanica (DC.) A. Gray (*Puccinia eatoniae* Arth.), *see Aecidium ranunculi* Schw. from *Ranunculus abortivus* L. [Arthur]

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EUPHORBIA nutans Lag. (*Uromyces euphorbiae* C. & P. uredo), *see* *Uromyces euphorbiae* C. & P. aecidiospores from *Euphorbia nutans* Lag. [Arthur]

FARLOW, W. G. The Development of the Gymnosporangia of the United States [General account of results of cultures by himself, Thaxter, Halsted, and some European botanists.] Bot. Gaz. 11:234-241. Sept. 1886.

FARLOW, W. G. Development of Roestelia from Gymnosporangia. [Preliminary notice of Thaxter's work.] Bot. Gaz. 11:189-190. July 1886.

FARLOW, W. G. The Gymnosporangia or Cedar Apples of the United States. Anniv. Mem. Boston Soc. Nat. Hist. 1880, 38:1-38. Pl. 1-2. 1880.

FARLOW, W. G. Notes on some Species of *Gymnosporangium* and *Chrysomyxa* of the United States. Proc. Am. Acad. Arts & Sci. Boston, N. S. 12:311-323. 1885.

FESTUCA gigantea (*Puccinia graminis tritici*), *see* *Puccinia graminis tritici* uredospores from *Triticum vulgare*. [Carleton]

FESTUCA sp. indet. (*Puccinia coronata* Corda), *see* *Puccinia coronata* Corda uredospores from *Avena sativa*. [Carleton]

FRAXINUS viridis (*Aecidium fraxini* Schw.), *see* *Puccinia peridermiospora* (E. & T.) Arth. from *Spartina cynosuroides*. [Arthur]

GYMNOCONIA interstitialis (*Caeoma nitens* Schw.) from *Rubus occidentalis* and *R. villosus* (*Gymnoconia interstitialis teleuto* [*Puccinia peckiana* Howe] on *Rubus occidentalis* and *R. villosus*). G. W. Clinton. Bot. Gaz. 20: 116. March 1895.

GYMNOCONIA interstitialis (*Puccinia peckiana* Howe teleuto on *Rubus occidentalis* and *R. villosus*), see *Gymnoconia interstitialis* (*Caeoma nitens* Schw.) from *Rubus occidentalis* and *R. villosus*. [Clinton]

GYMNOSPORANGIUM bisepatum from [Cupressus thyoides] (Roestelia botryapites on *Amelanchier canadensis*). Roland Thaxter. Proc. Amer. Acad. Arts & Sci. Boston, 14: 263. (Separate) Jan. 1887.

GYMNOSPORANGIUM bisepatum from [Cupressus thyoides] (—? spermogonia on *Amelanchier canadensis*). W. G. Farlow. Proc. Amer. Acad. Arts & Sci. Boston, N. S. 12:316. 1885.

GYMNOSPORANGIUM bisepatum from Cupressus thyoides (—? spermogonia on *Crataegus tomentosa*). W. G. Farlow. Annivers. Mem. Boston Nat. Hist. 1880:35. 1880.

GYMNOSPORANGIUM clavariaeforme DC. from *Juniperus communis* L. (Roestelia botryapites Schw. on *Amelanchier* [canadensis] and *A. botryapium*). Byron D. Halsted. Bull. Bot. Dept. State Agr. Coll. Iowa [1887]:90-2. Feb. 1888.

GYMNOSPORANGIUM clavariaeforme from [*Juniperus communis*] (Roestelia lacerata on *Crataegus tomentosa*). Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:262. (Separate) Jan. 1887.

GYMNOSPORANGIUM clavipes from [*Juniperus virginiana*] (Roes-telia aurantiaca on *Amelanchier canadensis* and *Pyrus malus* spermogonia only). Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:264. (Separate) Jan. 1887.

GYMNOSPORANGIUM conicum from [*Juniperus virginiana*] (Roes-telia cornuta on *Amelanchier canadensis* and *Pyrus malus* (spermogonia only)). Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:264. (Separate) Jan. 1887.

GYMNOSPORANGIUM clavipes from [*Juniperus virginiana*] (—? spermogonia on *Amelanchier canadensis*, *Pyrus arbutifolia* and *P. malus*). W. G. Farlow. Proc. Am. Acad. Arts & Sci. Boston, N. S. 12:316. 1885.

GYMNOSPORANGIUM ellisi from [Cupressus sp.] (Roestelia transformans (?) on *Pyrus arbutifolia* and (?) *Amelanchier canadensis*). Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:264 (Separate) Jan. 1887.

GYMNO^SPORANGIUM globosum from *Juniperus [virginiana]* (Roestelia "lacerata z" [R. globosum Thax. as later used] on *Pyrus malus*, *Pyrus americana* and *Crataegus crus-galli*). Roland Thaxter. Conn. Agr. Exp. Sta. Bull. 107:4. 15 Apr. 1891.

GYMNO^SPORANGIUM globosum from [*Juniperus virginiana*] (Roestelia sp.? (spermogonia only) on *Crataegus coccinea*, *Pyrus americana* and *Pyrus malus*.) Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:263. (Separate) Jan. 1887.

GYMNO^SPORANGIUM globosum from *Juniperus virginiana* (—? spermogonia on *Crataegus oxyacantha*, *C. douglasii* and *Pyrus malus*). W. G. Farlow. Proc. Am. Acad. Arts & Sci. Boston, N. S. 12:316. 1885.

GYMNO^SPORANGIUM globosum from *Juniperus virginiana* (—? spermogonia on *Crataegus tomentosa*). W. G. Farlow. Annivers. Mem. Boston Soc. Nat. Hist. 1880:34. 1880.

GYMNO^SPORANGIUM macropus from *Juniperus virginiana* (Roestelia [penicillata] on *Pirus coronaria*). Byron D. Halsted. Bot. Gaz. 11:190. July 1886. Bull. Iowa Agr. Coll. Bot. Dept. 1886:59-61. 1887.

GYMNO^SPORANGIUM macropus from *Juniperus virginiana* (Roestelia pirata on *Pirus malus* cult.). F. C. Stewart and G. W. Carver. Proc. Iowa Acad. Sci. for 1895, 3:166. 1896. Reprinted in N. Y. Exp. Sta. for 1895:535. 1896.

GYMNO^SPORANGIUM macropus from [*Juniperus virginiana*] (Roestelia pyrata on *Pyrus malus*). Roland Thaxter. Proc. Am. Acad. Arts & Sci. Boston, 14:262. (Separate) Jan. 1887.

GYMNO^SPORANGIUM macropus from *Juniperus virginiana* (Roestelia pyrata on *Pyrus iowensis*). L. H. Pammel. Rep. Iowa State Hort. Soc. 1893, 28:470. 1894.

GYMNO^SPORANGIUM macropus from *Juniperus virginiana* (—? spermogonia on *Crataegus douglasii*, *Pyrus arbutifolia*, *P. malus* and *Amelanchier*). W. G. Farlow. Proc. Am. Acad. Arts & Sci. Boston, N. S. 12:316. 1885.

GYMNO^SPORANGIUM macropus from *Juniperus virginiana* (—? spermogonia on *Crataegus tomentosa* and *Amelanchier canadensis*). W. G. Farlow. Annivers. Mem. Boston Soc. Nat. Hist. 1880:34-5. 1880.

GYMNO^SPORANGIUM nidus-avis Thax. nov. sp. from *Juniperus virginiana* (Roestelia nidus-avis on *Cydonia* (quince) and *Amelanchier canadensis*). Roland Thaxter. Conn. Agr. Exp. Sta. Bull. 107:4. 15 Apr. 1891.

- HALSTED, BYRON D. *Gymnosporangium macropus* on *Pirus coronaria*. Bot. Gaz. 11:190-1. July 1886. The same under title: Relation between "Cedar Apples" and the Leaf Rust on the Wild Crab Apple. Bull. Iowa. Agr. Coll. Bot. Dept. 1886:59-61. 1887.
- HALSTED, BYRON D. Relation of Rusts of Juneberry and Dwarf Juniper. Bull. Bot. Dept. State Agr. Coll. Iowa, [1887]:90-2. Feb. 1888.
- HELIANTHUS annuus L. (*Puccinia helianthi* Schw. aecidia), *see* *Puccinia helianthi* Schw. from *Helianthus mollis* Lam. [Kellerman]
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HITCHCOCK, A. S. and Carleton, M. A. Second Report on Rusts of Grain. Kansas Exp. Sta. Bull. 46:1-9. May 1894.

HORDEUM distichum (Puccinia graminis), *see* Puccinia graminis uredospores from *Triticum vulgare*. [Hitchcock & Carleton]

HORDEUM [distichum] (Puccinia graminis tritici), *see* Aecidium berberidis from [Berberis vulgaris]. [Carleton]

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HORDEUM jubatum (Puccinia graminis tritici on *Triticum vulgare*), *see* Puccinia graminis tritici from *Hordeum jubatum*. [Carleton]

HOWELL, J. K. The Clover Rust. Cornell Univ. Agr. Exp. Sta. Bull. 24:129-139. Dec. 1890.

IMPATIENS aurea Muhl. (Aecidium impatientis Schw.), *see* Puccinia rubigo-vera P. impatientis (Schw.) Arthur n. n. from *Elymus virginicus* L. [Arthur]

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- JUNIPERUS virginiana (Roestelia [penicillata] on Pirus coronaria), *see* Gymnosporangium macropus from Juniperus virginiana. [Halsted]
- JUNIPERUS virginiana (Roestelia pirata on Pirus malus cult.), *see* Gymnosporangium macropus from Juniperus virginiana. [Stewart & Carver]
- JUNIPERUS virginiana (Roestelia pirata on Pyrus iowensis), *see* Gymnosporangium macropus from Juniperus virginiana. [Pammel]
- JUNIPERUS virginiana (Roestelia pyrata on Pyrus malus), *see* Gymnosporangium macropus from [Juniperus virginiana]. [Thaxter]
- JUNIPERUS virginiana (Roestelia sp.? [spermogonia only] on Crataegus coccinea, Pyrus americana, and Pyrus malus), *see* Gymnosporangium globosum from [Juniperus virginiana]. [Thaxter]
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- JUNIPERUS virginiana (____? spermogonia on Crataegus oxyacantha, C. douglasii, and Pyrus malus), *see* Gymnosporangium globosum from Juniperus virginiana. [Farlow]
- JUNIPERUS virginiana (____? spermogonia on Crataegus tomentosa), *see* Gymnosporangium globosum from Juniperus virginiana. [Farlow]
- JUNIPERUS virginiana (____? spermogonia on Crataegus tomentosa and Amelanchier canadensis), *see* Gymnosporangium macropus from Juniperus virginiana. [Farlow]
- KELLERMAN, W. A. The alternate Form of Aecidium hibiscatum. Jour. Mycol. 9:109-110. May 1903.
- KELLERMAN, W. A. Puccinia lateripes B. & Rav. an Aut-eu-Puccinia. Jour. Mycol. 9:107. May 1903.
- KELLERMAN, W. A. Puccinia peckii (DeToni) Kellerm. n. n. Jour. Mycol. 8:20. May 1902. Ditto 9:9. Feb. 1903.

- KELLERMAN, W. A. Uredineous Infection Experiments in 1902.
Jour. Mycol. 9:6-13. Feb. 1903.
- KELLERMAN, W. A. Uredineous Infection Experiments in 1903.
Jour. Mycol. 9:225-238. Dec. 1903.
- KOELERIA cristata (Puccinia coronata Corda), *see* Puccinia coronata Corda uredospores from *Avena sativa*. [Carleton]
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- LESPEDEZA capitata Mx. (spermogonia and aecidia on *Lespedeza capitata*), *see* Uromyces lespedezae-procumbentis (Schw.) Curt. teleutospores from *Lespedeza capitata* Mx. [Arthur]
- LYCOPUS americanus (Aecidium lycopi Ger.), *see* Puccinia angustata Pk. from *Scirpus atrovirens*. [Arthur]
- LYCOPUS americanus Muhl. (Puccinia angustata Pk. aecidia [Aecidium lycopi Ger.]), *see* Puccinia angustata Pk. from *Scirpus atrovirens* Muhl. [Kellerman]
- LYCOPUS americanus (Puccinia angustata Pk. uredo on *Scirpus atrovirens*), *see* Puccinia angustata Pk. aecidiospores [Aecidium lycopi Ger.] from *Lycopus americana*. [Arthur]
- MELAMPSORA medusae Thüm. teleutospores from *Populus deltoides* Marsh. (spermogonia and aecidia [Caeoma] on *Larix decidua* Mill. [*Larix europaea* DC.]). J. C. Arthur. Jour. Mycol. 10:13. Jan. 1904.
- MUHLENBERGIA mexicana (L.) Trin. (Puccinia hibisciata (Schw.) Kellerm. aecidia on *Hibiscus militaris* Cav.), *see* Puccinia hibisciata (Schw.) Kellerm. from *Muhlenbergia mexicana* (L.) Trin. [Kellerman]

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PAMMEL, L. H. Diseases of Foliage and Fruit. Report Iowa State Hort. Soc. 1893, 28:467-474. 1894.

PANICUM virgatum (Puccinia panici Diet. uredo), *see* Aecidium pammelii Trel. from Euphorbia corollata L. [Stuart]

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PENTSTEMON pubescens (Puccinia americana Lagh. uredo on Andropogon scoparius), *see* Puccinia americana Lagh. aecidiospores [Aecidium pentstemonis Schw.] from Pentstemon pubescens. [Arthur]

PENTSTEMON hirsutus ([Aecidium pentstemonis] spermogonia), *see* Puccinia andropogonis Schw. from Andropogon scoparius. [Kellerman]

PENTSTEMON hirsutus (L.) Willd. (spermogonia and aecidia), *see* Puccinia andropogonis Schw. teleutospores from Andropogon scoparius Mx. [Arthur]

PHALARIS arundinacea (Puccinia coronata Corda), *see* Puccinia coronata Corda uredospores from Avena sativa. [Carleton]

PHALARIS caroliniana (Puccinia coronata Corda), *see* Puccinia coronata Corda aecidium from Rhamnus lanceolata. [Carleton]

PHASEOLUS diversifolius Pers. *see* Strophostyles helvola (L.) Britt.

PHLEUM pratense (Puccinia coronata Corda), *see* Puccinia coronata Corda uredospores from Avena sativa. [Carleton]

PHRAGMIDIUM speciosum Fr. spermogonia on *Rosa humilis*, *see* *Phragmidium speciosum* Fr. from *Rosa* (hardy garden rose). [Arthur]

PHRAGMIDIUM speciosum Fr. from *Rosa* sp. (*Caeoma miniata* Am, Auct. on *Rosa* [Tea rose, Kaiserin Augusta Victoria]). J. C. Arthur. Bot. Gaz. 29:271. April 1900.

PHRAGMIDIUM speciosum Fr. from *Rosa* (hardy garden rose) ([*Phragmidium speciosum* Fr.] spermogonia on *Rosa humilis*). J. C. Arthur. Bot. Gaz. 35:17. Jan. 1903.

PHRAGMITES communis (*Aecidium rubellum* Pers. on *Rumex crispus*, R. *obtusifolius*), *see* *Puccinia phragmitis* (Schum.) Körn. from *Phragmites communis*. [Arthur]

PHRAGMITES communis Trin., *see* *Phragmites phragmites* (L.) Karst. [Arthur]

PHRAGMITES phragmites (L.) Karst. (*P. communis* Trin.) (*Aecidium ranunculacearum* (?) on *Anemone canadensis*), *see* *Puccinia simillima* Arth. from *Phragmites phragmites* L.) Karst. (*P. communis* Trin.). [Arthur]

PHRAGMITES phragmites (*aecidia* [*Aecidium rubellum* Pers.] on *Rumex altissimus*), *see* *Puccinia phragmitis* (Schum.) Körn. from *Phragmites phragmites*. [Bates]

PIRUS coronaria (Roestelia [*penicillata*]), *see* *Gymnosporangium macropus* from *Juniperus virginiana*. [Halsted]

PIRUS malus cult. (Roestelia *pirata*), *see* *Gymnosporangium macropus* from *Juniperus virginiana*. [Stewart & Carver]

PLANTAGO rugelii (*Aecidium plantaginis* Ces [?]), *see* *Uromyces aristidae* E. & E. from *Aristida oligantha* Mx. [Arthur]

POLYPOGON monspeliensis (*Puccinia coronata* Corda), *see* *Puccinia coronata* Corda uredospores from *Avena sativa*. [Carleton]

POPULUS deltoides Marsh. (spermogonia and aecidia [*caeoma*] on *Larix decidua* Mill. (*L. europaea* DC.), *see* *Melampsora medusae* Thüm. teleutospores from *Populus deltoides*. [Arthur]

PTELEA trifoliata (*Aecidium pteleae*), *see* *Puccinia windsoriae* Schw. from *Tricuspidia seslerioides*. [Kellerman]

PTELEA trifoliata L. (*Puccinia windsoriae* Schw. aecidia [*Aecidium pteleae* B. & C.]), *see* *Puccinia windsoriae* Schw. from *Tricuspidia seslerioides* Torr. (*Triodia cuprea* Jacq.). [Arthur]

- PTELEA trifoliata (*Puccinia windsoriae* Schw. uredo on *Triodia cuprea* (*Sieblingia seslerioides* Scrib.), *see* *Puccinia windsoriae* Schw. aecidiospores (*Aecidium pteleae* (*Aecidium pteleae* B. & C.) from *Ptelea trifoliata*). [Arthur]
- Puccinia albiperidia* Arth. sp. nov. from *Carex pubescens* Muhl. (*Aecidium albiperidium* Arth. on *Ribes cynosbati* L.). J. C. Arthur. *Jour. Mycol.* 8:53. June 1903.
- Puccinia albiperidia* Arth. teleutospores from *Carex gracillima* Schw. (spermogonia and aecidia on *Ribes cynosbati* L.). J. C. Arthur. *Jour. Mycol.* 10:11. Jan. 1904.
- Puccinia americana* Lagh. aecidiospores [*Aecidium pentstemonis* Schw.] from *Pentstemon pubescens* (*Puccinia americana* Lagh. uredo on *Andropogon scoparius*). J. C. Arthur. *Bot. Gaz.* 29:272. April 1900.
- Puccinia americana* Lagh. from *Andropogon scoparius* (*Aecidium pentstemonis* Schw. on *Pentstemon pubescens*). J. C. Arthur. *Bot. Gaz.* 29:272. April 1900.
- Puccinia americana* Lagh. uredo on *Andropogon scoparius*, *see* *Puccinia americana* Lagh. aecidiospores [*Aecidium pentstemonis* Schw.] from *Pentstemon pubescens*. [Arthur]
- Puccinia americana* Lagh.—a synonym of *P. andropogonis* Schw. [J. C. Arthur; *Bull. Lab. Nat. Hist. Univ. Iowa*, 5:182. May 1901.]
- Puccinia amphigena* Diet. from *Calamovilfa longifolia* (Hook.) Hack. (*Aecidium smilacis* Schw. on *Smilax herbacea* L. and *S. hispida* Muhl.). J. C. Arthur. *Bot. Gaz.* 35:20. Jan. 1903.
- Puccinia amphigena* Diet teleutospores from *Calamovilfa longifolia* (Hook.) Hack. (spermogonia and aecidia on *Smilax hispida*). J. C. Arthur. *Jour. Mycol.* 10:11. Jan. 1904.
- Puccinia andropogonis* Schw. from *Andropogon scoparius* [*Aecidium pentstemonis*] spermogonia on *Pentstemon hirsutus*). W. A. Kellerman. *Jour. Mycol.* 9:10. Feb. 1903.
- Puccinia andropogonis* Schw., *see* *P. americana* Lagh.
- Puccinia andropogonis* Schw. teleutospores from *Andropogon scoparius* Mx. (spermogonia and aecidia on *Pentstemon hirsutus*). J. C. Arthur. *Jour. Mycol.* 10:11. Jan. 1904.
- Puccinia angustata* Pk. aecidia [*Aecidium lycopi* Ger.] on *Lycopodium americanum* Muhl., *see* *Puccinia angustata* Pk. from *Scirpus atrovirens* Muhl. [Kellerman]

PUCCINIA angustata Pk. from *Scirpus atrovirens* (Aecidium lycopi Ger. on *Lycopus americanus*). J. C. Arthur. *Jour. Mycol.* 8:53. June 1902.

PUCCINIA angustata Pk. aecidiospores [Aecidium lycopi Ger.] from *Lycopus americana* (Puccinia angustata Pk. uredo on *Scirpus atrovirens*. J. C. Arthur. *Bot. Gaz.* 29:273. April 1900.

PUCCINIA angustata Pk. teleutospores from *Scirpus atrovirens* Muhl. (Puccina angustata Pk. aecidia [Aecidium lycopi Ger.] on *Lycopus americanus* Muhl). W. A. Kellerman. *Jour. Mycol.* 9:226. Dec. 1903.

PUCCINIA angustata Pk. uredo on *Scirpus atrovirens*, *see* Puccinia angustata aecidiospores [Aecidium lycopi Ger.] from *Lycopus americanus*. [Arthur]

PUCCINIA atkinsoniana Diet. from *Carex lurida* (Aecidium sambuci Schw. on *Sambucus canadensis*). W. A. Kellerman. *Jour. Mycol.* 9:7. Feb. 1903.

PUCCINIA atkinsoniana Diet., synonym of *P. sambuci* (Schw.) Arth. n. n.

PUCCINIA atkinsoniana and *P. bolleyana* are identical and synonyms of *P. sambuci* (Schw.) nom. nov. [J. C. Arthur. *Bot. Gaz.* 35:15. Jan. 1903.]

PUCCINIA bartholomaei Diet. [*P. jamesiana* (Pk.) Arth. n. n.] from *Atheropogon curtipendulus* Fourn. (*Bouteloua curtipendula* Torr.) (Aecidium jamesianum on Aecidium jamesianum on *Asclepias incarnata* and *A. syriaca* L.). J. C. Arthur. *Bot. Gaz.* 35:18. Jan. 1903.

PUCCINIA bolleyana Sacc. from *Carex trichocarpa* (Aecidium sambuci Schw. on *Sambucus canadensis*). W. A. Kellerman. *Jour. Mycol.* 9:8. Feb. 1903.

PUCCINIA bolleyana Sacc. from *Carex trichocarpa* (Aecidium sambuci Schw.?) on *Sambucus canadensis* (Puccinia bolleyana Sacc. uredo on *Carex trichocarpa*. J. C. Arthur. *Jour. Mycol.* 8:55. June 1902.

PUCCINIA bolleyana Sacc. uredo on *Carex trichocarpa*, *see* Puccinia bolleyana Sacc. aecidiospores (Aecidium sambuci Schw.?) from *Sambucus canadensis*. [Stuart]

PUCCINIA bolleyana and *P. atkinsoniana* are identical and synonyms of *P. sambuci* (Schw.) nom. nov. [J. C. Arthur. *Bot. Gaz.* 35:15. Jan. 1903.]

- PUCCINIA bolleyana Sacc., syn. of *Puccinia sambuci* (Schw.) Arth. n. n.
- PUCCINIA caricina DC. from *Carex trichocarpa*, *see Puccinia peckii* (DeToni) Kellerm. n. n. [P. caricina DC. p. p.] from *Carex trichocarpa*. [Kellerman]
- PUCCINIA caricis (Schum.) Reb. from *Carex riparia* (Aecidium urticae Schum. on *Urtica gracilis*). W. A. Kellerman. Jour. Mycol. 9:9. Feb. 1903.
- PUCCINIA caricis (Schum.) Reb. aecidiospores [Aecidium urticae Schum.] from [Urtica sp.] (*Puccinia caricis* (Schum.) Reb. uredo on *Carex stricta*). J. C. Arthur. Bot. Gaz. 29:270. April 1900.
- PUCCINIA caricis (Schum.) Reb. from *Carex stricta* Lam. (*Puccinia caricis* (Schum.) Reb. aecidia on *Urtica gracilis*). J. C. Arthur. Bot. Gaz. 35:16. Jan. 1903.
- PUCCINIA caricis (Schum.) Reb. from *Carex stricta* (Aecidium urticae Schum. on *Urtica gracilis*). W. A. Kellerman. Jour. Mycol. 9:10. Feb. 1903.
- PUCCINIA caricis (Schum.) Reb. from *Carex stricta* (Aecidium urticae on *Urtica gracilis*). J. C. Arthur. Jour. Mycol. 8:52. June 1902.
- PUCCINIA caricis (Schum.) Reb. uredo on *Carex stricta*, *see Puccinia caricis* (Schum.) Reb. aecidiospores [Aecidium urticae Schum.] from [Urtica sp.] [Arthur]
- PUCCINIA caricis (Schum.) Reb. aecidia on *Urtica gracilis*, *see Puccinia caricis* (Schum.) Reb. from *Carex stricta* Lam. [Arthur]
- PUCCINIA caricis-asteris Arth. aecidia on *Aster paniculatus*, *see Puccinia caricis-asteris* Arth. from *Carex foenea* Willd. [Arthur]
- PUCCINIA caricis-asteris Arth. sp. nov. from *Carex foenea* (Aecidium asterum Schw. on *Aster paniculatus* and *A. cordifolius*) J. C. Arthur. Jour. Mycol. 8:54. June 1902.
- PUCCINIA caricis-asteris Arth. from *Carex foena* Willd. (*Puccinia caricis-asteris* Arth. aecidia on *Aster paniculatus*). J. C. Arthur. Bot. Gaz. 35:15. Jan. 1903.
- PUCCINIA caricis-erigerontis Arth. from *Carex festucacea* Willd. (*Puccinia caricis-erigerontis* Arth. aecidia on *Erigeron annuus* (L.) Pers., *E. philadelphicus* L. and *Leptilon canadense* (L.) Britt. J. C. Arthur. Bot. Gaz. 35:15. Jan. 1903.

PUCCINIA *caricis-erigerontis* Arth. from *Carex festucacea* (Aecidium [erigeronatum Schw.] on *Erigeron annuus*). J. C. Arthur. *Jour. Mycol.* 8:53. June 1902.

PUCCINIA *caricis-erigerontis* Arthur from *Carex festucacea* Willd. (*Puccinia caricis-erigerontis* Arth. aecidia on *Leptilon canadense* (L.) Britt.). W. A. Kellerman. *Jour. Mycol.* 9:228. Dec. 1903.

PUCCINIA *caricis-erigerontis* Arth. aecidia on *Erigeron annuus* (L.) Pers., *E. philadelphicus* L. and *Leptilon canadense* (L.) Britt., *see Puccinia caricis-erigerontis* Arth. from *Carex festucacea* Willd. [Arthur]

PUCCINIA *caricis-erigerontis* Arth. aecidia on *Leptilon canadense* (L.) Britt., *see Puccinia caricis-erigerontis* Arth. from *Carex festucacea* Willd. [Kellerman]

PUCCINIA *caricis-solidaginis* Arthur n. n. from *Carex jamesii* Schw. (Aecidium solidaginis Schw. on *Solidago canadensis* L., *S. caesia* L. (spermogonia), *S. rigida* L. (spermogonia), *S. serotina* Ait., and *S. ulmifolia* Muhl. (spermogonia)). J. C. Arthur. *Bot. Gaz.* 35:21. Jan. 1903.

PUCCINIA *caricis-solidaginis* Arth. n. n. (*Puccinia* on *Carex jamesii* Schw. and *C. stipata* Muhl., and Aecidium solidaginis Schw.). J. C. Arthur. *Bot. Gaz.* 35:21. Jan. 1903.

PUCCINIA *caricis-solidaginis* Arthur n. n. from *Carex stipata* Muhl. (Aecidium solidaginis Schw. on *Solidago canadensis* and *S. serotina*). J. C. Arthur. *Bot. Gaz.* 35:21. Jan. 1903.

PUCCINIA *caricis-solidaginis* Arth. aecidia on *Solidago canadensis* L., *see Puccinia caricis-solidaginis* Arth. from *Carex stipata* Muhl. [Kellerman]

PUCCINIA *caricis-solidaginis* Arth. from *Carex stipata* Muhl. (*Puccinia caricis-solidaginis* Arth. aecidia on *Solidago canadensis* L.). W. A. Kellerman. *Jour. Mycol.* 9:228. Dec. 1903.

PUCCINIA *caulicola* Tr. & Gall. (aecidia [Aecidium *caulicolum* Kellerm.] on *Salvia lanceolata* Willd.), *see Puccinia caulicola* Tr. & Gall. teleutospores from *Salvia lanceolata* Willd. [Kellerman]

PUCCINIA *caulicola* Tr. & Gall. teleutospores from *Salvia lanceolata* Willd., (*Puccinia caulicola* Tr. & Gall. aecidia [Aecidium *caulicolum* Kellerm.] on *Salvia* *Salvia* Willd.). W. A. Kellerman. *Jour. Mycol.* 9:227. Dec. 1903.

PUCCINIA *caulicola* Tr. & Gall. teleutospores from *Salvia lanceolata* Willd. (spermogonia and aecidia on *Salvia lanceolata*). J. C. Arthur. *Jour. Mycol.* 10:14. Jan. 1904.

PUCCINIA chrysanthemi Roze uredospores from *Chrysanthemum indicum* (*Puccinia chrysanthemi* Roze uredo on *Chrysanthemum indicum*). J. C. Arthur. Ind. Agr. Exp. Sta. Bull. 85:145. Oct. 1900.

PUCCINIA chrysanthemi Roze uredospores on *Chrysanthemum indicum*, *see* *Puccinia chrysanthemi* Roze uredo from *Chrysanthemum indicum*. [Arthur]

PUCCINIA cirsii-lanceolati Schroet. teleutospores from *Carduus lanceolatus* L. (*Puccinia cirsii-lanceolati* Schroet. aecidia [*Aecidium cirsii-lanceolati* Kellerm.] uredo and teleuto on *Carduus lanceolatus* L.). W. A. Kellerman. Jour. Mycol. 9:229. Dec. 1903.

PUCCINIA cirsii-lanceolati Schroet. aecidia [*Aecidium cirsii-lanceolati* Kellerman] uredo and teleuto on *Carduus lanceolatus* L., *see* *Puccinia cirsii-lanceolati* Schroet. teleutospores from *Carduus lanceolatus* L. [Kellerman]

PUCCINIA convolvuli Cast. from *Convolvulus sepium* (*Aecidium calystegiae* Desm. on *Convolvulus sepium*). J. C. Arthur. Bot. Gaz. 29:270. April 1900.

PUCCINIA coronata Corda on *Alopecurus alpestris*, *Anthoxanthum odoratum*, *Avena fatua*, *A. pratensis*, *A. sativa*, *Dactylis glomerata*, *Eatonia* sp. indet., *Festuca* sp. indet., *Koeleria cristata*, *Phalaris arundinacea*, *Phleum pratense*, *Polypogon monspeliensis*, *see* *Puccinia coronata* Corda uredospores from *Avena sativa*. [Carleton]

PUCCINIA coronata Corda on *Avena sativa*, *Phalaris caroliniana*, *Arrhenatherum elatius*, *see* *Puccinia coronata* Corda aecidium from *Rhamnus lanceolata*. [Carleton]

PUCCINIA coronata Corda aecidiospores from *Rhamnus lanceolata* (*Puccinia coronata* Corda on *Avena sativa*, *Phalaris caroliniana*, *Arrhenatherum elatius*) Mark Alfred Carleton. U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull. 16:48. 27 Sept. 1899.

PUCCINIA coronata Corda uredospores from *Avena sativa* (*Puccinia coronata* Corda on *Alopecurus alpestris*, *Anthoxanthum odoratum*, *Avena fatua*, *A. pratensis*, *A. sativa*, *Dactylis glomerata*, *Eatonia* sp. indet., *Festuca* sp. indet., *Koeleria cristata*, *Phalaris arundinacea*, *Phleum pratense*, *Polypogon monspeliensis*). Mark Alfred Carleton. U. S. Dept. Rgr. Div. Veg. Phys. & Path. Bull. 16:46-7. 27 Sept. 1899.

PUCCINIA eatoniae Arth. n. n. on *Eatonia pennsylvanica* (DC.) A. G., *see* *Aecidium ranunculi* Schw. from *Ranunculus abortivus* L. [Arthur]

PUCINIA fraxinata (Lk.) Arth. n. n. for P. atkinsoniana Diet.
& P. bolleyana Sacc. [Arthur]

PUCINIA graminis on Avena sativa, *see* Puccinia graminis uredospores from Avena sativa. [Hitchcock & Carleton]

PUCINIA graminis on Avena sativa, *see* Puccinia graminis uredospores from Triticum vulgare. [Hitchcock & Carleton]

PUCINIA graminis uredospores from Avena sativa (Puccinia graminis on Avena sativa). A. S. Hitchcock & M. A. Carleton. Kans. Exp. Sta. Bull. 46:3. May 1894.

PUCINIA graminis on Hordeum distichum, *see* Puccinia uredospores from Triticum vulgare. [Hitchcock & Carleton]

PUCINIA graminis on Triticum vulgare, *see* Puccinia graminis uredospores on Triticum vulgare. [Hitchcock & Carleton]

PUCINIA graminis uredospores from Triticum vulgare (Puccinia graminis on Avena sativa). A. S. Hitchcock & M. A. Carleton. Kans. Exp. Sta. Bull. 46:3. May 1894.

PUCINIA graminis uredospores from Triticum vulgare (Puccinia graminis on Hordeum distichum.) A. S. Hitchcock & M. A. Carleton. Kans. Exp. Sta. Bull. 46:3. May 1894.

PUCINIA graminis uredospores from Triticum vulgare (Puccinia graminis on Triticum vulgare). A. S. Hitchcock & M. A. Carleton. Kansas Exp. Sta. Bull. 46:3. May 1894.

PUCINIA graminis tritici [Aecidium], *see* Aecidium berberidis. [Carleton]

PUCINIA graminis tritici on Elymus canadensis, E. can. glaucifolius, Triticum vulgare, *see* Puccinia graminis tritici uredospores from Elymus canarensis glaucifolius. [Carleton]

PUCINIA graminis tritici uredospores from Elymus canadensis glaucifolius (Puccinia graminis tritici on Elymus canadensis, E. canadensis glaucifolius, Triticum vulgare). Mark Alfred Carleton. U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull. 16:55. 27 Sept. 1899.

PUCINIA graminis tritici on Hordeum [distichum], *see* Aecidium berberidis from Hordeum [distichum]. [Carleton]

PUCINIA graminis tritici from Hordeum jubatum (Puccinia graminis tritici on Triticum vulgare). Mark Alfred Carleton. U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull. 16:55. 27 Sept. 1899.

PUCINIA graminis tritici on Triticum vulgare, Festuca gigantea, Agropyron richardsoni, Triticum monococcum, Hordeum [distichum], Koeleria cristata, *see* Puccinia graminis tritici uredospores from Triticum vulgare. [Carleton]

PUCCINIA graminis tritici on *Triticum vulgare*, *see* *Puccinia graminis tritici*-uredospores from *Hordeum jubatum*. [Carleton]

PUCCINIA graminis tritici from *Triticum vulgare* (*Puccinia graminis tritici* on *Triticum vulgare*, *Festuca gigantea*, *Agropyron richardsoni*, *Triticum monococcum*, *Hordeum [distichum]*, *Koeleria cristata*). Mark Alfred Carleton. U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull. 16: 54-5. 27 Sept. 1899.

PUCCINIA helianthi Schw. aecidia on *Helianthus mollis* and *H. annuus* L., *see* *Puccinia helianthi* Schw. from *Helianthus mollis* Lam. [Kellerman]

PUCCINIA helianthi Schw. from *Helianthus mollis* Lam. (*Puccinia helianthi* Schw. aecidia on *Helianthus mollis* Lam. and *H. annuus* L. W. A. Kellerman. Jour. Mycol. 9:230. Dec. 1903.

PUCCINIA helianthi Schw. from *Helianthus grosse-serratus* Mart. (*Puccinia helianthi* Schw. on *Helianthus grosse-serratus* Mart. and *H. maximiliani* Schrad.). J. C. Arthur. Bot. Gaz. 35.17. Jan. 1903.

PUCCINIA helianthi Schw. from *Helianthus grosse-serratus* Mart. and *H. maximiliani* Schrad., *see* *Puccinia helianthi* Schw. from *Helianthus grosse-serratus* Mart. [Arthur]

PUCCINIA helianthi from *Helianthus* [sp.] (Aecidium on *Helianthus* [sp.]). M. A. Carleton. Science, N. S. 12:250. 15 Feb. 1901.

PUCCINIA helianthi Schw. teleutospores from *Helianthus mollis* Lam. (spermogonia and aecidia on *Helianthus annuus* and *H. mollis*). J. C. Arthur. Jour. Mycol. 10:—. —Jan. 1904.

PUCCINIA hibisciata (Schw.) Kellerm. from *Muhlenbergia mexicana* (L.) Trin. (*Puccinia hibisciata* (Schw.) Kellerm. aecidia on *Hibiscus militaris* Cav.) W. A. Kellerman. Jour. Mycol. 9:32. Dec. 1903.

PUCCINIA hibisciata (Schw.) Kellerm. aecidia on *Hibiscus militaris* Cav., *see* *Puccinia hibisciata* (Schw.) Kellerm. from *Muhlenbergia mexicana* (L.) Trin. [Kellerman]

PUCCINIA hibisciata (Schw.) Kellerm. n. n. (*P. muhlenbergiae* Arth., *P. windsoriae* Burr. non Schw.) from *Muhlenbergia mexicana* (Aecidium *hibisciatum* Schw. on *Hibiscus moscheutos*). W. A. Kellerman. Jour. Mycol. 9:109, 232. May, Dec. 1903.

PUCCINIA hydnoidea (B. & C.) Arth. n. n. on *Bromus ciliatus* L., *see* Aecidium *hydnoideum* B. & C. from *Dirca palustris* L. [Arthur]

PUCCINIA impatiensis (Schw.) Arthur n. n. (*Puccinia rubigo-vera* p. p. [on *Elymus virginicus*]). [J. C. Arthur. Bot. Gaz. 35:19. Jan. 1903.]

PUCCINIA impatiensis (Schw.) Arthur n. n., *see* *Puccinia ribigo-vera* [P. *impatientis* (Schw.) Arthur n. n. from *Elymus virginicus* L.] [Arthur]

PUCCINIA impatiensis (Schw.) Arth. teleutospores from *Elymus virginicus* L. (spermogonia and aecidia on *Impatiens aurea* Muhl.). J. C. Arthur. Jour. Mycol. 10:11. Jan. 1904.

PUCCINIA jamesiana (Pk.). Arth. nom. nov. (*Puccinia bartholomaei* Diet. and *Aecidium jamesianum* Pk. [J. C. Arthur. Bot. Gaz. 35:18. Jan. 1903.]

PUCCINIA lateripes B. & Rav. aecidiospores [*Aecidium lateripes*] from *Ruellia strepens* (Uredo and teleuto on *Ruellia strepens*). W. A. Kellerman. Jour. Mycol. 9:107 and 234. May, and Dec. 1903.

PUCCINIA lateripes B. & Rav. teleutospores from *Ruellia strepens* (aecidia [*Aecidium lateripes* Kellerm.] uredo and teleuto on *Ruellia strepens*). W. A. Kellerman. Jour. Mycol. 9:107 and 234, May and Dec. 1903.

PUCCINIA muhlenbergiae Arth., *see* *P. hibisciata* (Schw.) Kellerm. n. n. [Kellerman]

PUCCINIA osmorrhizae on *Chaerophyllum procumbens* and (?) *Washingtonia claytoni*, *see* *Aecidium osmorrhizae* Pk. from *Washingtonia claytoni*. [Kellerman]

PUCCINIA panici Diet. uredo on *Panicum virgatum*, *see* *Aecidium pammelii* Trel. from *Euphorbia corollata*. [Stuart]

PUCCINIA peckii (DeT.) Kellerm. from *Carex trichocarpa* Muhl. *Aecidium peckii* DeT. on *Onagra biennis* (L.) Scop. (*Oenothera biennis* L.). J. C. Arthur. Bot. Gaz. 35:13. Jan. 1903.

PUCCINIA peckii (DeToni) Kellerm. n. n. (*P. caricina* DC. p. p.) from *Carex trichocarpa* (*Aecidium peckii* DeToni [Ae. *oenotherae* Pk.] on *Onagra biennis* (L.) Scop. [*Oenothera biennis* L.]) W. A. Kellerman. Jour. Mycol. 8:20, also 9:9. May 1902, Feb. 1903.

PUCCINIA peridermiospora (E. & T.) Arth. from *Spartina cynosuroides* (*Aecidium fraxini* Schw. on *Fraxinus viridis*). J. C. Arthur. Bot. Gaz. 29:275. April 1900.

PUCCINIA phragmitis (Schum.) Körn. from *Phragmites communis* (*Aecidium rubellum* Pers. on *Rumex crispus*, *R. obtusifolius*). J. C. Arthur. Bot. Gaz. 29:269. April 1900.

- PUCINIA phragmitis (Schum.) Körn. from *Phragmites phragmites* (*Aecidium rubellum* Pers. on *Rumex altissimus*). John M. Bates. *Jour. Mycol.* 9:220. Dec. 1903.
- PUCINIA poculiformis (Jacq.) Wettst. from *Cinna arundinacea* (*Aecidium berberidis* on *Berberis vulgaris*). J. C. Arthur. *Jour. Mycol.* 8:53. June 1903.
- PUCINIA pustulata (Curt.) Arth. n. n. teleutospores from *Andropogon furcatus* Muhl. and *A. scoparius* Mx. (spermatogonia and aecidia [*Aecidium pustulatum* Curt.] on *Comandra umbellata* (L.) Nutt.). J. C. Arthur. *Jour. Mycol.* 10:—. Jan. 1904.
- PUCINIA rhamni (Pers.) Wettst., *see* *P. coronata* Corda.
- PUCINIA rubigo-vera [*P. impatiens* (Schw.) Arthur n. n.] from *Elymus virginicus* L. (*Aecidium impatiens* Schw. on *Impatiens aurea* Muhl.) J. C. Arthur. *Bot. Gaz.* 35:18. Jan. 1903.
- PUCINIA rubigo-vera on *Triticum vulgare*, *see* *Puccinia rubigo-vera* uredospores from *Triticum vulgare*. [Hitchcock & Carleton]
- PUCINIA rubigo-vera uredosopores from *Triticum vulgare* (*Puccinia rubigo-vera* on *Triticum vulgare*). A. S. Hitchcock and M. A. Carleton. *Kans. Exp. Sta. Bull.* 46:3. May 1894.
- PUCINIA rubigo-vera secalis on *Secalis cereale*, *see* *Puccinia rubigo-vera secalis* uredo from *Secalis cereale*. [Carleton]
- PUCINIA rubigo-vera secalis uredo from *Secalis cereale* (*Puccinia rubigo-vera secalis* on *Secalis cereale*). Mark Alfred Carleton. *U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull.* 16:43. 27 Sept. 1899.
- PUCINIA rubigo-vera tritici on *Triticum vulgare*, *see* *Puccinia rubigo-vera tritici* from *Triticum vulgare*. [Carleton]
- PUCINIA rubigo-vera tritici uredo from *Triticum vulgare* (*Puccinia rubigo-vera tritici* on *Triticum vulgare*). Mark Alfred Carleton. *U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull.* 16:20. 27 Sept. 1899.
- PUCINIA sambuci (Schw.) Arth. n. n. (*P. atkinsoniana* Diet.) from *Carex lirida* Wahl. (*Puccinia sambuci* (Schw.) Arth. aecidia [*Aecidium sambuci* Schw.] on *Sambucus canadensis*). J. C. Arthur. *Bot. Gaz.* 35:15. Jan. 1903.
- PUCINIA sambuci (Schw.) Arth. aecidia [*Aecidium sambuci* Schw.] on *Sambucus canadensis*, *see* *Puccinia sambuci* (Schw.) Arth. (*P. atk insoniana* Diet.) from *Carex lirida* Wahl. [Arthur]

(To be Continued)